Document details

Back to results | 1 of 1

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A novel secret key generation based on image link (Article)

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Abstract

View references (13)

One of the main problems with symmetric encryption is key distribution especially when involving large number of users i.e to generate identical keys at different locations. To address this challenge, we proposed a novel algorithm of secret key infusion protocol (SKIP) to generate an identical secret key. While, the key is generated based on a provided image link, starting pattern and string length which must be kept in secret as the algorithm is publicly known. The image from website must be a static image and used as the input of random bits to produce string of hexadecimal values. In a case where image link is compromised, the adversary has to guess other layers of parameters in starting pattern and string length. The generated secret keys were identical at two different locations. In other observation, different secret keys were generated even with the same image link and pattern length but different starting pattern.

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References (13)

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1 Ren, K., Su, H., Wang, Q.
Secret key generation exploiting channel characteristics in wireless communications

(2011) *IEEE Wireless Communications*, 18 (4), art. no. 5999759, pp. 6-12. Cited 94 times.
doi: 10.1109/MWC.2011.5999759

View at Publisher

2 Takesue, H., Sasaki, T., Tamaki, K., Koashi, M.
Experimental quantum key distribution without monitoring signal disturbance

(2015) *Nature Photonics*, 9 (12), pp. 827-831. Cited 32 times.
http://www.nature.com/nphoton/index.html
doi: 10.1038/nphoton.2015.173

View at Publisher

3 Ning, H., Wang, Z.
Future internet of things architecture: Like mankind neural system or social organization framework?

(2011) *IEEE Communications Letters*, 15 (4), art. no. 5722081, pp. 461-463. Cited 118 times.
doi: 10.1109/LCOMM.2011.022411.110120

View at Publisher

4 Gubbi, J., Buyya, R., Marusic, S., Palaniswami, M.
Internet of Things (IoT): A vision, architectural elements, and future directions

(2013) *Future Generation Computer Systems*, 29 (7), pp. 1645-1660. Cited 2320 times.
doi: 10.1016/j.future.2013.01.010

View at Publisher

5 Jing, Q., Vasilakos, A.V., Wan, J., Lu, J., Qiu, D.
Security of the Internet of Things: perspectives and challenges

(2014) *Wireless Networks*, 20 (8), pp. 2481-2501. Cited 233 times.
http://www.springerlink.com/content/1022-0038
doi: 10.1007/s11276-014-0761-7

View at Publisher

6 Feng, H., Wah, C.C.
Private key generation from on-line handwritten signatures

(2002) *Information Management and Computer Security*, 10 (4), pp. 159-164. Cited 133 times.
doi: 10.1108/09685220210436949

View at Publisher

7 Freire-Santos, M., Fierrez-Aguilar, J., Ortega-Garcia, J.
Cryptographic key generation using handwritten signature

(2006) *Proceedings of SPIE - The International Society for Optical Engineering*, 6202, art. no. 62020N. Cited 42 times.
ISBN: 0819462586; 978-081946258-9
doi: 10.1117/12.665875

View at Publisher